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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,938	08/21/2003	Hideki Sugiura	241828US0	7365

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EXAMINER

NOTE, JANIS L

ART UNIT PAPER NUMBER

1756

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/644,938

Applicant(s)

SUGIURA ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 February 2004.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-19 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/22/03;2/26/04.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The information disclosure statement, in particular the "List of Related Cases," filed on Dec. 22, 2003, does not fully comply with the requirements of 37 CFR 1.98 because: its fails to comply with 37 CFR 1.98(a)(2)(iii), which requires legible copies of those portions of the copending U.S. applications which caused them to be listed in the "List of Related Cases."

Since the submission appears to be bona fide, applicants are given ONE (1) MONTH from the date of this notice to supply the above mentioned omissions or corrections in the information disclosure statement. The examiner notes that if applicants have a postcard receipt stating that the USPTO did receive copies of the documents, applicants should also provide a copy of said receipt so that there is no ambiguity in the record that applicants did provide copies of the missing documents.

NO EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37 CFR 1.136(a) OR (b). Failure to timely comply with this notice will result in the above mentioned information disclosure statements being placed in the application file with the noncomplying information not being considered. See 37 CFR 1.97(i).

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2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

In Fig. 6, the reference characters 65, 66, 67, 68, 69, 71, 72, 73, 75, 76, 77, 78, 79, 80, and 170.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The disclosure is objected to because of the following informalities:

(1) The use of trademarks, e.g. Bontron 03 [sic: BONTRON 03] at page 37, line 5, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

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Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

(2) The specification at page 22, line 14, to page 23, line 4, defines the parameters SF-1 and SF-2 (which are recited in instant claim 13) as:

$$SF-1 = (L^2/A) \times (\pi/4) \times 100$$

$$SF-2 = (P^2/A) \times (\pi/4) \times 100$$

where "L" is the maximum length of the toner particle, "A" is the projected area of the toner, and "P" is the maximum perimeter of a toner. The variables "L2" and "P2" are not defined. The dimension of SF-1 and SF-2 determined from the equations is (length)⁻¹. However, the prior art defines the parameters SF-1 and SF-2 to be dimensionless:

$$SF-1 = (L^2/A) \times (B/4) \times 100$$

$$SF-2 = (P^2/A) \times (B/4) \times 100.$$

See US 5,797,070 (Waki), col. 8, lines 14-28; US 5,753,399 (Hayase), col. 13, line 34, to col. 14, line 1.

Accordingly, it is not clear whether the equations disclosed in the instant specification are correct.

Appropriate correction is required.

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

In claims 1-6 and 11-19, the recitation a "toner . . . comprising: a polyester resin . . . " lacks antecedent in the specification See page 13, line 21, to page 15, line 8, and page 15, line 24, to page 16, line 3, of the specification, which discloses a toner comprising a polyester that contains nitrogen as having the surface properties recited in the instant claims. The term "polyester resin" is broader than the disclosed polyester containing nitrogen because it includes polyester resins that do not contain nitrogen.

5. The examiner notes that the instant specification at page 21, lines 17-20, discloses that the sphericity E recited in instant claim 11 is calculated by dividing the perimeter of a circle (circumference) having the same projected area as an actual toner particle by the perimeter of the toner particle.

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6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 11, 13, 16, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 is indefinite in the phrase "at least one of elongation and cross-linking, a toner composition including a prepolymer being dissolved in oil droplets dispersed in an aqueous medium" because it is not clear what is being elongated or cross-linked. Nor is it clear what the toner composition has to do with the step of elongation or cross-linking.

Claim 13 is indefinite in the phrase

Claims 16 and 19 are indefinite in the phrase "apparatus comprising: . . . a developer" or "process cartridge comprising: a toner; and an electrostatic image substance," respectively, because it is not clear what is the structural relationship between the apparatus and the developer and the process cartridge and the toner. It is not clear how an apparatus or a process cartridge "comprises" a developer. A developer is not a

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structural element of an apparatus or a process cartridge, such as a charging device, but is merely a material or an article that is worked upon by the apparatus. The claims do not recite any structural relationship between the apparatus and the developer or between the process cartridge and the toner.

8. In the interest of compact prosecution, the examiner has interpreted the parameters SF-1 and SF-2 recited in instant claim 13 as being defined by the following equations used in the prior art:

$$SF-1 = (L^2/A) \times (\pi/4) \times 100$$

$$SF-2 = (P^2/A) \times (\pi/4) \times 100$$

where "L" is the maximum length of the toner particle, "A" is the projected area of the toner, and "P" is the maximum perimeter of a toner. Rejections based on this interpretation are set forth infra.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 5 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,624,779 (Nakayama).

Nakayama discloses a toner for electrophotography comprising toner particles comprising a polyester resin and a colorant, wherein the crosslinking density of the polyester gradually increases from the center towards the surface of toner particles. The polyester resin has an unsaturated double bond that reacts with a reactive monomer to form a cross-linked

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structure. Col. 1, line 60, to col. 2, line 5; and example 3 at cols. 8-9. In other words, the cross-linking density of the polyester resin at the surface is higher than the polyester resin at the center of the toner particles. Accordingly, the toner particles taught by Nakayama meet the toner limitations recited in instant claims 5 and 6.

13. Claims 1-4, 11, 15, 17, and 18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakayama.

Nakayama discloses a toner for electrophotography as described in paragraph 12 above, which is incorporated herein by reference. Nakayama further discloses a developer comprising the toner described supra and a magnetic carrier. Col. 11, lines 10-14. Nakayama further discloses a method of forming an image comprising the steps of developing an electrostatic latent image with said developer using the commercially available copier SF-9800 manufactured by Sharp Corporation. Col. 11, lines 14-30.

Nakayama does not disclose that the polyester resin at the surface of the toner particles is harder than the polyester resin in the center of the toner particles, as recited in instant claims 1 and 2. Nor does Nakayama disclose explicitly

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that the polyester resin at the surface of the toner particles has a higher heat resistance than the polyester resin at the center of the particles as recited in instant claims 3 and 4. However, according to Nakayama, the "crosslinking reaction heightens the Tg or strength of the toner surface to improve heat resistance." Col. 3, lines 13-14. Thus, it is reasonable to presume that the polyester resin at the surface of the toner particles taught by Nakayama is harder and has a higher resistance to heat than the polyester in the center of the particles, as recited in the instant claims. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Instant claim 11 is written in product-by-process format. Nakayama does not exemplify making a toner by the process recited in instant claim 11. However, as discussed above, the toner particles disclosed by Nakayama appear to comprise a surface that is harder than the center of the toner particles as recited in instant claim 1. Accordingly, the toner disclosed by Nakayama appears to be the same or substantially the same as the toner made by the method recited in the instant claim. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983); In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985); MPEP 2113.

14. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama combined with US 6,077,635 (Okado).

Nakayama discloses a toner as described in paragraph 13 above, which is incorporated herein by reference.

Nakayama does not disclose that the toner particles have a sphericity as recited in instant claim 12.

Okado discloses a toner comprising toner particles having an average circularity of from 0.920 to 0.995, preferably from 0.960 to 0.995, containing particles with a circularity of less than 0.950 in an amount of from 2% by number to 40% by number, preferably from 3 to 30% by number, and having a weight-average particle size of from 2.0 to 9.0 μm , as measured by a COULTER counter, and a particular external additive. Col. 6, lines 51-64, and col. 8, lines 32-34 and 59-61. Okado discloses that toner particles having the described average circularity and circularity distribution may be obtained by treating the toner by a hot-air method or by a mechanical impact method. Col. 9, lines 7-22. Okado's "average circularity" has the same definition as the "sphericity" recited in instant claim 12. Compare Okado, col. 8, lines 37-51, and paragraph 5, supra.

Okado teaches that if the average circularity is less than 0.920, the external additive tends to localize on the toner

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particle surfaces, resulting in unstable image densities. If the average circularity is more than 0.995, the external additive is held on the toner particle surfaces with difficulty, resulting in unstable charging, which leads to fog formation. Col. 8, lines 52-58. Okado further teaches that if the toner contains particles having a circularity of less than 0.950 in an amount of more than 40% by number, the "toner tends to have a low fluidity to tend to cause image deterioration such as a lowering of fine-line reproducibility." Col. 8, line 65, to col. 9, line 2.

Okado discloses that toners having Okado's preferred weight-average particle size provide high quality images. Col. 24, lines 33-38. Okado discloses that toners having a weight-average particle size of less than 2 μm have poor transfer efficiency, resulting in the formation of large quantities of residual toner on the photoreceptor, which causes uneven images and melt-adhesion of the residual toner to the photoreceptor. Toners having a weight-average particle size greater than 9 μm provide lower quality images, for example, images with black spots around line images, and tend to cause melt-adhesion of toner to various members. Col. 24, lines 42-50.

Okado discloses that its toner particles combined with the particular external additive can provide fog-free images with superior image-density stability and minute-image reproducibility, without causing deterioration of the toner "in its long term service." Col. 6, lines 11-14. The external additives include (A) inorganic powder having an average particle size of from 10 μm to 400 μm and a shape factor SF-1 of from 100 to 130, and (B) a non-spherical inorganic powder having a SF-1 of greater than 150. Col. 6, lines 57-64.

It would have been obvious for a person having ordinary skill in the art to spherically treat the toner disclosed by Nakayama as taught by Okado, such that the resulting toner has an average circularity within the range of 0.960 to 0.995 and comprises 11% by number of particles having a circularity of less than 0.950 as taught by Okado; to adjust, through routine experimentation, following the teachings of Okado, the particle size of said resultant toner particles such that said resultant toner particles have a weight-average particle size within the range of 2.0 to 9.0 μm ; and to add Okado's particular external additive to said resultant toner particles. That person would have had a reasonable expectation of successfully obtaining a toner having the benefits disclosed by Okado.

15. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama combined US 5,753,399 (Hayase) and US 5,797,070 (Waki).

Nakayama discloses a toner as described in paragraph 13 above, which is incorporated herein by reference.

Nakayama does not disclose that the toner particles have the sphericities SF-1 and SF-2 as recited in instant claim 13.

Hayase discloses that it is advantageous for toners to have a shape factor SF-1 of 100 to 160, preferably from 100 to 125. Hayase discloses that the shape factor SF-1 represents the degree of sphericity of the toner, and a shape factor SF-1 closer to 100 means that the shape of the toner particles is closer to a "true sphere." Hayase discloses that when the shape factor SF-1 is larger than 160, the toner particles are substantially deviated from spheres and are indefinite or irregularly shaped particles, causing a reduction in toner transfer efficiency (or transfer ratio). Hayase, col. 13, line 51, to col. 14, line 11. Waki discloses that spherical toner particles that have a shape factor SF-1 of preferably 100 to 130, and a shape factor SF-2 of 100 to 140, preferably of 100 to 120, can be produced by heating a pulverized toner prepared by melting, blending, pulverization, and classification; or by the application of impact to the toner particle surface of a

pulverized toner. Waki, col. 8, lines 8-27 and 50-56; and col. 13, lines 34-39. The toner disclosed by Nakayama are pulverized toners. Nakayama, example 3. According to Waki, if the SF-1 value is 180 or higher and the SF-2 value is 140 or higher, the "toner re-transfer is possibly not prevented, the transfer efficiency may be lower, fogging may be remarkable, or durability may be lower." Col. 8, lines 35-38.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Hayase and Waki, to treat the pulverized toner disclosed by Nakayama as taught by Waki to obtain a spherical toner having the sphericities SF-1 and SF-2 that are within the scope of the instant claim, because that person would have had a reasonable expectation of successfully obtaining a toner with good transfer efficiency.

16. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama combined US 6,080,519 (Ishiyama) and US 5,547,802 (Kawase).

Nakayama discloses a toner as described in paragraph 13 above, which is incorporated herein by reference.

Nakayama does not disclose that the toner particles have a volume average diameter or a ratio of volume-average particle

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diameter to number-average diameter as recited in instant claim 14.

Ishiyama teaches that when the volume average particle size of the toner is less than $2\text{ }\mu\text{m}$, the charge property of the toner is insufficient and lowers the developing property (i.e., developing quality). If the volume average particle size is greater than $9\text{ }\mu\text{m}$, the resolution of the image is degraded. Col. 7, lines 22-27. The range of 2 to $9\text{ }\mu\text{m}$ overlaps the range of 2 to $7\text{ }\mu\text{m}$ recited in instant claim 14. Thus, the toner art recognizes the volume average particle size as result a result-effective variable, the variation of which is presumably within the skill of the person having ordinary skill in the art.

Kawase discloses that in order to obtain images with excellent dot reproduction and sharpness, it is preferable that the volume mean diameter (D_v) of the toner particles be in the range of 3 to $9\text{ }\mu\text{m}$, and that the ratio (D_v/D_p) of the volume mean particle diameter (D_v) to the number-average particle (D_p), be in the range of 1.00 to 1.15. Col. 18, lines 50-54. The volume mean diameter of 3 to $9\text{ }\mu\text{m}$ overlap the range of 2 to $7\text{ }\mu\text{m}$ recited in instant claim 14. The ratio D_v/D_p of 1.00 to 1.15 meets the range of "1.25 or less" recited in instant claim 14.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Ishiyama and Kawase, to adjust, through routine experimentation, the particle size of the toner particles disclosed by Nakayama, such that the resultant toner has a volume average particle size and a ratio D_v/D_p that are within the scope of instant claim 14, because that person would have had a reasonable expectation of successfully obtaining a toner that images with improved dot production and sharpness.

17. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2003/00118366 A1 (Nukada) combined with Nakayama.

Nukada discloses an imaging apparatus that comprises an a particular photoreceptor 10 (i.e., the electrostatic image carrier), a developing unit 13, a transfer unit 14, and a fixing roll unit 16. Fig. 7, and paragraphs 0112-0113. Nukada further discloses a process cartridge comprising the particular photoreceptor and the developing unit described above.

Paragraph 0115, lines 1-7. Nukada discloses that the developing unit may be a unit in which development is conducted with a two-component developer that comprises a toner and carrier.

Paragraph 0110, lines 1-12. As seen in Fig. 7, the developing

unit comprises a container to hold the developer or toner. Nukada also discloses an image forming method using the apparatus described above, comprising the step of developing the electrostatic image formed on the particular photoreceptor with a developer. Paragraph 0098, and Fig. 7.

Nukada does not disclose the use of a developer recited in instant claims as recited in instant claims 16-19.

Nakayama discloses a developer comprising a toner and a carrier as described in paragraph 13, supra. The developer appears to meet the developer limitations recited in instant claims 16-19. According to Nakayama, the toner is "fixable at a low fixing temperature, is suitable for storage in practical use, and exhibits excellent bonding to paper by roll fixing." Col. 1, lines 55-59.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Nakayama, to use the developer in example 3 of Nakayama as the developer in the image forming apparatus, process cartridge, and image forming method disclosed by Nukada, because that person would have had a reasonable expectation of successfully obtaining an image forming apparatus, process cartridge, and image forming method that provide toner images that can be readily fixed at a low

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fixing temperature and that exhibit excellent bonding to paper received by roll fixing.

18. Claims 1-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 2002/0081510 A1 (Sugiyama).

Sugiyama discloses a developer comprising a magnetic carrier and a toner comprising toner particles. The toner particles comprise a polyester modified with urea bonds and a colorant. Paragraph 0107, lines 1-3, 7-10; and example 14 in paragraphs 0164-0171. The polyester modified with urea bonds meets the polyester resin containing nitrogen recited in instant claims 7 and 10.

Sugiyama does not disclose that its toner has the properties recited in instant claims 1-6, 8, and 9. However, the toner disclosed by Sugiyama appears to be obtained by a method that is similar to the method used to obtain a toner having the properties recited in instant claims 1-6, 8, and 9. See the instant specification, example 1 at pages 82-83; and example 14 of Sugiyama. The toner disclosed by Sugiyama is obtained by: (1) forming a pigment/wax dispersion comprising a non-modified polyester; (2) blending additional non-modified polyester and a prepolymer resin with the pigment/wax

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dispersion; (3) dispersing the resultant blend to form a dispersion; (4) adding ketimine (1) to the dispersion to obtain dispersion 2; (5) adding dispersion 2 to an aqueous solution; (6) stirring the solution of step (5) while heating the solution to react the prepolymer with ketimine (1) to form an urea-modified polyester. The method of making disclosed by Sugiyama appears to meet the process limitations recited in instant claim 11. Thus, it is reasonable to presume that the toner disclosed by Sugiyama has the properties recited in instant claims 1-6, 8, and 9. The burden is on applicants to prove otherwise. Fitzgerald, supra.

19. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nukada combined with Sugiyama.

Nukada discloses an imaging apparatus, a process cartridge, and an image forming method as described in paragraph 17 above, which is incorporated herein by reference.

Nukada does not disclose the use of a developer recited in instant claims as recited in instant claims 16-19.

Sugiyama discloses a developer comprising a toner and a carrier as described in paragraph 18, supra. The developer appears to meet the developer limitations recited in instant claims 16-19. According to Sugiyama, the toner exhibits

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"sufficient anti-hot offset, which permit low temperature fixing, which is free of toner filming problems and which has good fluidity and good transferability." Paragraph 0019.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Sugiyama, to use the developer in example 14 of Sugiyama as the developer in the image forming apparatus, process cartridge, and image forming method disclosed by Nukada, because that person would have had a reasonable expectation of successfully obtaining an image forming apparatus, process cartridge, and image forming method that provide toner images that can be readily fixed at a low fixing temperature.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry of papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on

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access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD

Sep. 5, 2004

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